

# Work Order ID 141079

Tuesday, January 26, 2016 3:20:43 PM

**\*141079\***

Page 1

Item ID: 647.1701

Revision ID:

Item Name: Skid Deflector Assembly

Start Date: 1/26/2016 Start Qty: 2.00

Required Date: 1/26/2016 Req'd Qty: 2.00

Reference:

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Stop **\*NS2\***

Cust Item ID:

Customer:

Approvals: Process Plan: MLJ Date: FEB 01 2016 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| 647.1700 | D            |

|     |          |      |
|-----|----------|------|
| 110 | Pick Kit | 0.00 |
|-----|----------|------|

**\*110\***

|           |      |      |
|-----------|------|------|
| Packaging | Memo | 0.00 |
|-----------|------|------|

Packaging

|     |  |      |
|-----|--|------|
| 120 |  | 0.00 |
|-----|--|------|

**\*120\***

|           |      |      |
|-----------|------|------|
| Small Fab | Memo | 0.02 |
|-----------|------|------|

Small Fab

1- Assemble item 4,6,7 and 8 as per dwg.

2- Clamp item 1 and 2 to item 3. Transfer drill holes as per dwg see note 6. Use clecos.

3- Disassemble parts

4- Deburr

5- Touch up expose aluminum with alodine

6- Re-assemble as per dwg

DAS  
6  
9-89

FEB 03 2016

*[Signature]* *[Signature]* *[Signature]*  
DAS  
36  
9-89  
16/03/02

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                    |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Step #:                                                                                                                                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | MRB (QSI042) Approval                                                                                              |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                    |  |
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| <b>Root Cause</b><br><div style="display: flex;"> <div style="flex: 1;">           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div style="flex: 1;">           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> </div> |                                                                                                                                                                                    | <b>FAULT CATEGORY</b><br><div style="display: flex;"> <div style="flex: 1;">           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Centre Not Concentric <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>           Cuffs <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Heat Treat <input type="checkbox"/><br/>           Wave/Twist in Tube <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/> </div> <div style="flex: 1;">           Temperature/Cure <input type="checkbox"/><br/>           Set-up <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Inspection Incomplete/Unqualified <input type="checkbox"/><br/>           Contamination <input type="checkbox"/><br/>           Countersink <input type="checkbox"/><br/>           Cut Too Short <input type="checkbox"/><br/>           Instructions Incomplete/Unclear <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/> </div> <div style="flex: 1;">           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set <input type="checkbox"/><br/>           Mislabelled <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/> </div> <div style="flex: 1;">           Positioned Wrong <input type="checkbox"/><br/>           Outside Dimensions <input type="checkbox"/><br/>           Over/Under tolerance <input type="checkbox"/><br/>           Part Incorrect <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Part Moved <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Misread <input type="checkbox"/><br/>           Turning Sequence <input type="checkbox"/> </div> </div> |  |                                                                                                                    |  |
| OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                    |  |

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[illegible]

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                     |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Step #:                                                                                                                                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                                     |  |
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| <b>Root Cause</b><br><div style="display: flex;"> <div style="flex: 1;">           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div style="flex: 1;">           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> </div> |                                                                                                                                                                                    | <b>FAULT CATEGORY</b><br><div style="display: flex;"> <div style="flex: 1;">           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Centre Not Concentric <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>           Cuffs <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Heat Treat <input type="checkbox"/><br/>           Wave/Twist in Tube <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/> </div> <div style="flex: 1;">           Temperature/Cure <input type="checkbox"/><br/>           Set-up <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Inspection Incomplete/Unqualified <input type="checkbox"/><br/>           Contamination <input type="checkbox"/><br/>           Countersink <input type="checkbox"/><br/>           Cut Too Short <input type="checkbox"/><br/>           Instructions Incomplete/Unclear <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/> </div> <div style="flex: 1;">           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set <input type="checkbox"/><br/>           Mislabeled <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/> </div> <div style="flex: 1;">           Positioned Wrong <input type="checkbox"/><br/>           Outside Dimensions <input type="checkbox"/><br/>           Over/Under tolerance <input type="checkbox"/><br/>           Part Incorrect <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Part Moved <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Misread <input type="checkbox"/><br/>           Turning Sequence <input type="checkbox"/> </div> </div> |  |                                                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    | OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                     |  |

**Work Order ID 141079****\*141079\***

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Tuesday, January 26, 2016 3:20:43 PM

Item ID: 647.1701

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Skid Deflector Assembly

Start Date: 1/26/2016 Start Qty: 2.00

**\*2\***

Cust Item ID:

Required Date: 1/26/2016 Req'd Qty: 2.00

**\*2\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210

Identify as per dwg & Stock Location: SSK033 0.00**\*210\***

Packaging

Memo

0.00

Packaging

\*\*\*IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV\*\*\*

2 30 45

MAR 03 2016

220

QC21- Final Inspection - Work Order Release 0.00

**\*220\***

QC

Memo

0.00

Quality Control

MLJ

MAR 07 2016

mf

16-3-4

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                     |  |  |
|--------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                                                | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                                            | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div> |                                               |  |                                                                                                                                                     |  |  |
| Date :                                                       |                                                | Step #:                                                                                                                                                                            |                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |  |
| Description Work Order Deviation                             |                                                |                                                                                                                                                                                    |                                                            | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                               |  |                                                                                                                                                     |  |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                     |  |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                     |  |  |
| Root Cause                                                   |                                                | FAULT CATEGORY                                                                                                                                                                     |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                     |  |  |
| Environment <input type="checkbox"/>                         | <input type="checkbox"/> No Re-verification    | <input type="checkbox"/> Pressure/Forced                                                                                                                                           | <input type="checkbox"/> Temperature/Cure                  | <input type="checkbox"/> Power Loss/Surge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <input type="checkbox"/> Positioned Wrong     |  |                                                                                                                                                     |  |  |
| Design <input type="checkbox"/>                              | <input type="checkbox"/> Operator              | <input type="checkbox"/> Bending                                                                                                                                                   | <input type="checkbox"/> Set-up                            | <input type="checkbox"/> Folio/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> Outside Dimensions   |  |                                                                                                                                                     |  |  |
| Doc/Data <input type="checkbox"/>                            | <input type="checkbox"/> Offset/Setup          | <input type="checkbox"/> Centre Not Concentric                                                                                                                                     | <input type="checkbox"/> BOM/Route                         | <input type="checkbox"/> Grain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/> Over/Under tolerance |  |                                                                                                                                                     |  |  |
| Equip/Tooling <input type="checkbox"/>                       | <input type="checkbox"/> Supplier              | <input type="checkbox"/> Cracks                                                                                                                                                    | <input type="checkbox"/> Broken/Damage/Defect              | <input type="checkbox"/> Weld                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> Part Incorrect       |  |                                                                                                                                                     |  |  |
| Handling/Pre <input type="checkbox"/>                        | <input type="checkbox"/> Training              | <input type="checkbox"/> Crimp/Kink/Ripple/Wave                                                                                                                                    | <input type="checkbox"/> Inspection Incomplete/Unqualified | <input type="checkbox"/> Wrong Stock Pulled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Part Lost/Missing    |  |                                                                                                                                                     |  |  |
| Material <input type="checkbox"/>                            | <input type="checkbox"/> Use for Testing       | <input type="checkbox"/> Cuffs                                                                                                                                                     | <input type="checkbox"/> Contamination                     | <input type="checkbox"/> Out of Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Part Moved           |  |                                                                                                                                                     |  |  |
| Internal Transport <input type="checkbox"/>                  | <input type="checkbox"/> Poor Information      | <input type="checkbox"/> Crushing                                                                                                                                                  | <input type="checkbox"/> Countersink                       | <input type="checkbox"/> Off-set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Drawing              |  |                                                                                                                                                     |  |  |
| Tribal Knowledge <input type="checkbox"/>                    | <input type="checkbox"/> Rushing               | <input type="checkbox"/> Heat Treat                                                                                                                                                | <input type="checkbox"/> Cut Too Short                     | <input type="checkbox"/> Mislabeled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> Finish               |  |                                                                                                                                                     |  |  |
| LOA <input type="checkbox"/>                                 | <input type="checkbox"/> Product Improvement   | <input type="checkbox"/> Wave/Twist in Tube                                                                                                                                        | <input type="checkbox"/> Instructions Incomplete/Unclear   | <input type="checkbox"/> Fit/Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/> Misread              |  |                                                                                                                                                     |  |  |
| Substation <input type="checkbox"/>                          | <input type="checkbox"/> Process Improvement   | <input type="checkbox"/> Marks/Chatter                                                                                                                                             | <input type="checkbox"/> Drill Holes                       | <input type="checkbox"/> Misaligned/off center                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/> Turning Sequence     |  |                                                                                                                                                     |  |  |
| Past Expiry Date <input type="checkbox"/>                    | <input type="checkbox"/> Manufacturing Process | OTHER : _____                                                                                                                                                                      |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                     |  |  |
| Misidentified <input type="checkbox"/>                       | <input type="checkbox"/> Past Due              |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                     |  |  |

# Picklist Print

Tuesday, January 26, 2016 3:20:43 PM

Page 1

Work Order ID: 141079

**\*141079\***

Parent Item: 647.1701

**\*647 1701\***

Parent Item Name: Skid Deflector Assembly

Start Date: 1/26/2016

Required Date: 1/26/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 12.10.04 NEW ISSUE DD VERF:JFS

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand  | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|-----------------|-------------|--------------|---------------|----------------|--------|
| 647.1710                        |                        | Manufactured  | No          |                     |                  |                 | Each               | 3.0000          |             | 2            |               |                |        |
| <b>*647 1710*</b>               |                        |               |             |                     |                  |                 |                    |                 | <b>**</b>   |              |               |                |        |
| Plate                           |                        |               |             |                     |                  |                 |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                | DAS    |
|                                 |                        |               |             | CCK044              |                  | 3               |                    |                 |             |              |               |                | 6      |
|                                 |                        |               |             | 136175              |                  | 3               |                    |                 |             |              |               |                | 9-89   |
| 647.1711                        |                        | Manufactured  | No          |                     |                  |                 | Each               | 3.0000          |             | 2            |               |                |        |
| <b>*647 1711*</b>               |                        |               |             |                     |                  |                 |                    |                 | <b>**</b>   |              |               |                |        |
| Plate                           |                        |               |             |                     |                  |                 |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                |        |
|                                 |                        |               |             | CCK044              |                  | 1               |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | 136263              |                  | 1               |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | CCK045              |                  | 2               |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | 136263              |                  | 2               |                    |                 |             |              |               |                |        |
| 647.1712                        |                        | Manufactured  | No          |                     |                  |                 | Each               | 4.0000          |             | 2            |               |                |        |
| <b>*647 1712*</b>               |                        |               |             |                     |                  |                 |                    |                 | <b>**</b>   |              |               |                |        |
| Gusset                          |                        |               |             |                     |                  |                 |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                |        |
|                                 |                        |               |             | CCK036              |                  | 4               |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | 135512              |                  | 4               |                    |                 |             |              |               |                |        |
| 647.1713                        |                        | Manufactured  | No          |                     |                  |                 | Each               | 45.0000         |             | 2            |               |                |        |
| <b>*647 1713*</b>               |                        |               |             |                     |                  |                 |                    |                 | <b>**</b>   |              |               |                |        |
| Spacer                          |                        |               |             |                     |                  |                 |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                |        |
|                                 |                        |               |             | CCK108              |                  | 45              |                    |                 |             |              |               |                | DAS    |
|                                 |                        |               |             | 104845              |                  | 36              |                    |                 |             |              |               |                | 6      |
|                                 |                        |               |             | 99057               |                  | 9               |                    |                 |             |              |               |                | 9-89   |

FEB 03 2016

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                        |  |
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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                        |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Step #:                                                                                                                                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | MRB (QSI042) Approval                                                                                                  |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Completed By _____<br><br>Lead hand / Supervisor Approval Verification _____<br><br>QC / QA Coordinator Approval _____ |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                        |  |
| <b>Root Cause</b><br><div style="display: flex;"> <div style="flex: 1;">           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div style="flex: 1;">           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> </div> |                                                                                                                                                                                    | <b>FAULT CATEGORY</b><br><div style="display: flex;"> <div style="flex: 1;">           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Centre Not Concentric <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>           Cuffs <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Heat Treat <input type="checkbox"/><br/>           Wave/Twist in Tube <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/> </div> <div style="flex: 1;">           Temperature/Cure <input type="checkbox"/><br/>           Set-up <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Inspection Incomplete/Unqualified <input type="checkbox"/><br/>           Contamination <input type="checkbox"/><br/>           Countersink <input type="checkbox"/><br/>           Cut Too Short <input type="checkbox"/><br/>           Instructions Incomplete/Unclear <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/> </div> <div style="flex: 1;">           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set <input type="checkbox"/><br/>           Misabeled <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/> </div> <div style="flex: 1;">           Positioned Wrong <input type="checkbox"/><br/>           Outside Dimensions <input type="checkbox"/><br/>           Over/Under tolerance <input type="checkbox"/><br/>           Part Incorrect <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Part Moved <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Misread <input type="checkbox"/><br/>           Turning Sequence <input type="checkbox"/> </div> </div> |  |                                                                                                                        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    | OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                        |  |



# Picklist Print

Tuesday, January 26, 2016 3:20:43 PM

Page 2

Work Order ID: 141079

**\*141079\***

Parent Item: 647.1701

**\*647 1701\***

Parent Item Name: Skid Deflector Assembly

Start Date: 1/26/2016

Required Date: 1/26/2016

Start Qty: 2.00

Required Qty: 2.00

CR3213-4-4

Purchased

No

Each

412.0000

44

**\*CR3213-4-4\***

**\*\***

Rivet, Cherry

Location

Loc Qty

Loc Code

DAS  
6  
9-89

CCK004

300

M133694

300

ST319

48

M130388

48

ST320

64

126282

64

44  
4

NAS1149F0332P

Purchased

No

Each

2,295.000

**\*NAS1149F0332P\***

**\*\***

Washer

DAS  
6  
9-89

Location

Loc Qty

Loc Code

GA

396

m133709

396

ST260a

1500

m134055

1500

ST262

399

m133709

4

m133938

395

4  
2

MS21042-3

MS21042L3

Purchased

No

Each

18.0000

**\*MS21042-3\***

**\*\***

Nut / use MS21042L3

133790

Location

Loc Qty

Loc Code

DAS  
6  
9-89

ST304

18

M129682

18

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                                                                    |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Step #:                                                                                                                                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | MRB (QSI042) Approval                                                                                              |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                    |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                    |  |
| <b>Root Cause</b><br><div style="display: flex;"> <div style="flex: 1;">           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div style="flex: 1;">           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> </div> |                                                                                                                                                                                    | <b>FAULT CATEGORY</b><br><div style="display: flex;"> <div style="flex: 1;">           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Centre Not Concentric <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>           Cuffs <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Heat Treat <input type="checkbox"/><br/>           Wave/Twist in Tube <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/> </div> <div style="flex: 1;">           Temperature/Cure <input type="checkbox"/><br/>           Set-up <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Inspection Incomplete/Unqualified <input type="checkbox"/><br/>           Contamination <input type="checkbox"/><br/>           Countersink <input type="checkbox"/><br/>           Cut Too Short <input type="checkbox"/><br/>           Instructions Incomplete/Unclear <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/> </div> <div style="flex: 1;">           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set <input type="checkbox"/><br/>           Mislabeled <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/> </div> <div style="flex: 1;">           Positioned Wrong <input type="checkbox"/><br/>           Outside Dimensions <input type="checkbox"/><br/>           Over/Under tolerance <input type="checkbox"/><br/>           Part Incorrect <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Part Moved <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Misread <input type="checkbox"/><br/>           Turning Sequence <input type="checkbox"/> </div> </div> |  |                                                                                                                    |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    | OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                    |  |

# Picklist Print

Tuesday, January 26, 2016 3:20:43 PM

Work Order ID: 141079

**\*141079\***

Parent Item: 647.1701

**\*647 1701\***

Parent Item Name: Skid Deflector Assembly

Start Date: 1/26/2016

Required Date: 1/26/2016

Start Qty: 2.00

Required Qty: 2.00

MS27039-1-14

Purchased

No

Each

785.0000

2

**\*MS27039-1-14\***

**\*\***

DAS

Screw

3

9-89

Location

Loc Qty

Loc Code

GA

94

120449

94

over006

500

124326

500

ST280

191

124326

191

FEB 03 2016

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

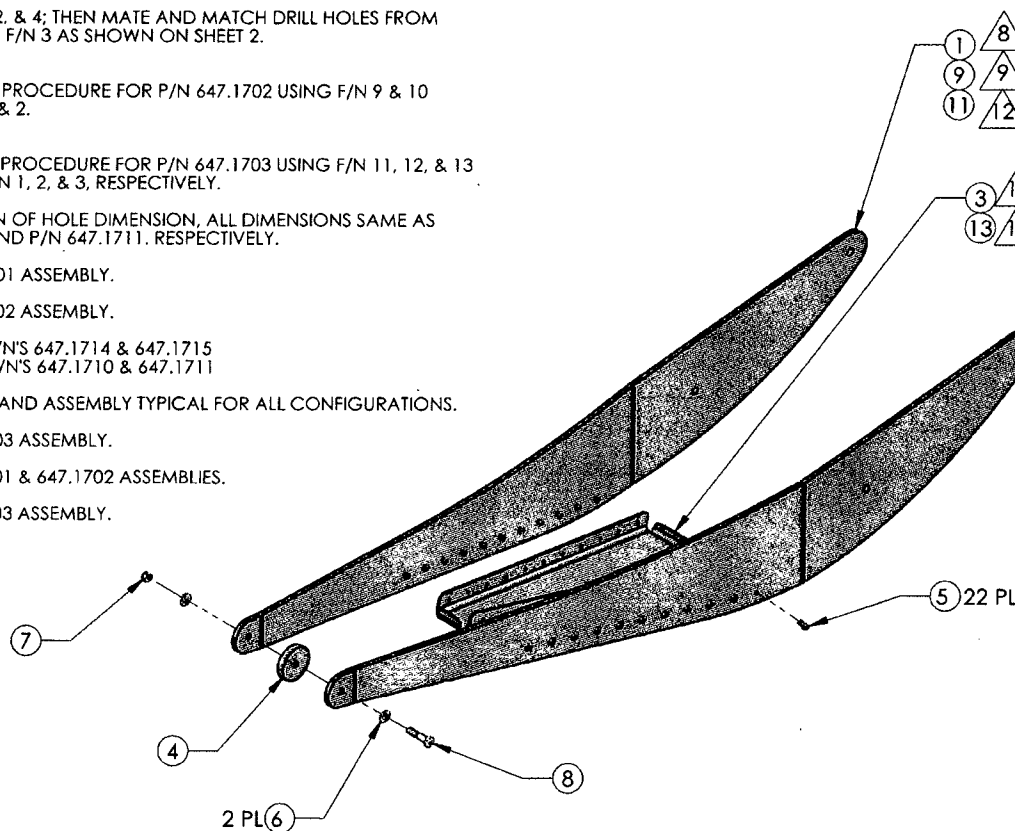
Work Order update only ☐

|                                                              |                          |                                                                                                                                                                                    |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                |                                               |  |                                                                                                                    |  |
|--------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                          | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                                 | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                |                                               |  |                                                                                                                    |  |
| Date :                                                       |                          | Step #:                                                                                                                                                                            |                                                 | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                |                                               |  | MRB (QS1042) Approval                                                                                              |  |
| Description Work Order Deviation                             |                          |                                                                                                                                                                                    |                                                 | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                |                                               |  | Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |
|                                                              |                          |                                                                                                                                                                                    |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                |                                               |  |                                                                                                                    |  |
|                                                              |                          |                                                                                                                                                                                    |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                |                                               |  |                                                                                                                    |  |
| Root Cause                                                   |                          | FAULT CATEGORY                                                                                                                                                                     |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                |                                               |  |                                                                                                                    |  |
| Environment <input type="checkbox"/>                         | <input type="checkbox"/> | No Re-verification <input type="checkbox"/>                                                                                                                                        | Pressure/Forced <input type="checkbox"/>        | Temperature/Cure <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Power Loss/Surge <input type="checkbox"/>      | Positioned Wrong <input type="checkbox"/>     |  |                                                                                                                    |  |
| Design <input type="checkbox"/>                              | <input type="checkbox"/> | Operator <input type="checkbox"/>                                                                                                                                                  | Bending <input type="checkbox"/>                | Set-up <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Folio/Program <input type="checkbox"/>         | Outside Dimensions <input type="checkbox"/>   |  |                                                                                                                    |  |
| Doc/Data <input type="checkbox"/>                            | <input type="checkbox"/> | Offset/Setup <input type="checkbox"/>                                                                                                                                              | Centre Not Concentric <input type="checkbox"/>  | BOM/Route <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Grain <input type="checkbox"/>                 | Over/Under tolerance <input type="checkbox"/> |  |                                                                                                                    |  |
| Equip/Tooling <input type="checkbox"/>                       | <input type="checkbox"/> | Supplier <input type="checkbox"/>                                                                                                                                                  | Cracks <input type="checkbox"/>                 | Broken/Damage/Defect <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Weld <input type="checkbox"/>                  | Part Incorrect <input type="checkbox"/>       |  |                                                                                                                    |  |
| Handling/Pre <input type="checkbox"/>                        | <input type="checkbox"/> | Training <input type="checkbox"/>                                                                                                                                                  | Crimp/Kink/Ripple/Wave <input type="checkbox"/> | Inspection Incomplete/Unqualified <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Wrong Stock Pulled <input type="checkbox"/>    | Part Lost/Missing <input type="checkbox"/>    |  |                                                                                                                    |  |
| Material <input type="checkbox"/>                            | <input type="checkbox"/> | Use for Testing <input type="checkbox"/>                                                                                                                                           | Cuffs <input type="checkbox"/>                  | Contamination <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Out of Sequence <input type="checkbox"/>       | Part Moved <input type="checkbox"/>           |  |                                                                                                                    |  |
| Internal Transport <input type="checkbox"/>                  | <input type="checkbox"/> | Poor Information <input type="checkbox"/>                                                                                                                                          | Crushing <input type="checkbox"/>               | Countersink <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Off-set <input type="checkbox"/>               | Drawing <input type="checkbox"/>              |  |                                                                                                                    |  |
| Tribal Knowledge <input type="checkbox"/>                    | <input type="checkbox"/> | Rushing <input type="checkbox"/>                                                                                                                                                   | Heat Treat <input type="checkbox"/>             | Cut Too Short <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mislabeled <input type="checkbox"/>            | Finish <input type="checkbox"/>               |  |                                                                                                                    |  |
| LOA <input type="checkbox"/>                                 | <input type="checkbox"/> | Product Improvement <input type="checkbox"/>                                                                                                                                       | Wave/Twist in Tube <input type="checkbox"/>     | Instructions Incomplete/Unclear <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Fit/Function <input type="checkbox"/>          | Misread <input type="checkbox"/>              |  |                                                                                                                    |  |
| Substation <input type="checkbox"/>                          | <input type="checkbox"/> | Process Improvement <input type="checkbox"/>                                                                                                                                       | Marks/Chatter <input type="checkbox"/>          | Drill Holes <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Misaligned/off center <input type="checkbox"/> | Turning Sequence <input type="checkbox"/>     |  |                                                                                                                    |  |
| Past Expiry Date <input type="checkbox"/>                    | <input type="checkbox"/> | Manufacturing Process <input type="checkbox"/>                                                                                                                                     |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                |                                               |  |                                                                                                                    |  |
| Misidentified <input type="checkbox"/>                       | <input type="checkbox"/> | Past Due <input type="checkbox"/>                                                                                                                                                  | OTHER : <input type="checkbox"/>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                |                                               |  |                                                                                                                    |  |

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# NOTES:

- 1 MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-250/12.
- 2 MATERIAL: 6061-T6 ALUMINUM BAR IAW AMS-QQ-A-250/11.
- 3 FINISH IAW MPP-172, SECTIONS 2.1, 3.1, & 4.2.
- 4 DEBURR AND BREAK ALL SHARP EDGES.
- 5 IDENTIFY IAW MPP-120.
- 6 P/N 647.1701:  
CLAMP F/N 1, 2, & 4; THEN MATE AND MATCH DRILL HOLES FROM F/N 1 & 2 ONTO F/N 3 AS SHOWN ON SHEET 2.
- P/N 647.1702:  
FOLLOW SAME PROCEDURE FOR P/N 647.1702 USING F/N 9 & 10 IN PLACE OF 1 & 2.
- P/N 647.1703:  
FOLLOW SAME PROCEDURE FOR P/N 647.1703 USING F/N 11, 12, & 13 IN PLACE OF F/N 1, 2, & 3, RESPECTIVELY.
- 7 WITH EXCEPTION OF HOLE DIMENSION, ALL DIMENSIONS SAME AS P/N 647.1710 AND P/N 647.1711, RESPECTIVELY.
- 8 FOR P/N 647.1701 ASSEMBLY.
- 9 FOR P/N 647.1702 ASSEMBLY.
- 10 .323" DIA FOR P/N'S 647.1714 & 647.1715  
.257" DIA FOR P/N'S 647.1710 & 647.1711
- 11 RIVET SPACING AND ASSEMBLY TYPICAL FOR ALL CONFIGURATIONS.
- 12 FOR P/N 647.1703 ASSEMBLY.
- 13 FOR P/N 647.1701 & 647.1702 ASSEMBLIES.
- 14 FOR P/N 647.1703 ASSEMBLY.



| REVISIONS |                                         |          |          |
|-----------|-----------------------------------------|----------|----------|
| REV.      | DESCRIPTION                             | DATE     | APPROVED |
|           | LAST PROTOTYPE REVISION: PR2            |          | N/C      |
| N/C       | INITIAL RELEASE                         | 08/05/09 | P. BRAVO |
| A         | INCORPORATED ECN'S 02937 & 03921        | 06/07/13 | P. BRAVO |
| B         | INCORPORATED ECN 03970                  | 07/03/13 | P. BRAVO |
| C         | INCORPORATED ECN 04058                  | 08/14/13 | P. BRAVO |
| D         | INCORPORATED ECN'S 04679, 04702 & 04944 | 05/29/15 | P. BRAVO |

141039 405  
160201

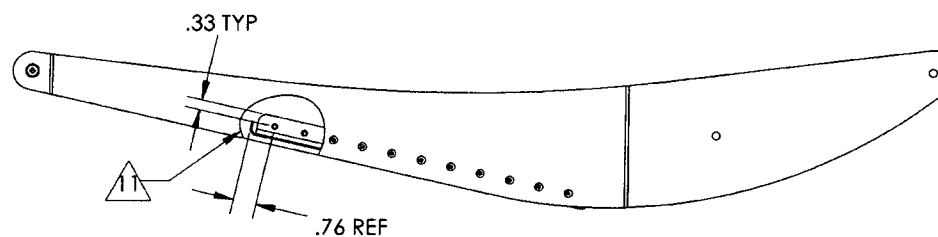
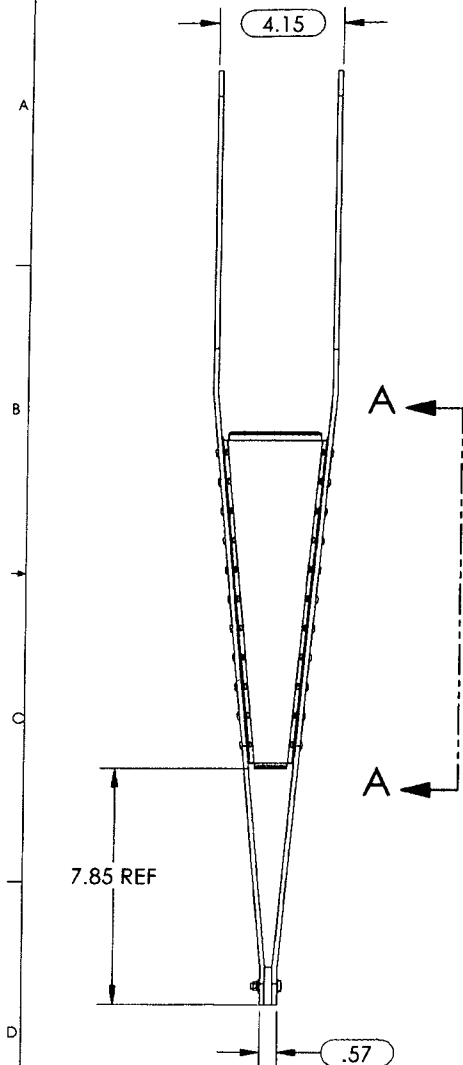
|       |       |       |          |                     |               |             |
|-------|-------|-------|----------|---------------------|---------------|-------------|
| 1     |       | 13    | 647.1718 | GUSSET              | △             | △           |
| 1     |       | 12    | 647.1717 | PLATE               | △             | △           |
| 1     |       | 11    | 647.1716 | PLATE               | △             | △           |
|       | 1     | 10    | 647.1715 | PLATE               | △             | △           |
|       | 1     | 9     | 647.1714 | PLATE               | △             | △           |
| 1     | 1     | 8     | 601.1622 | SCREW               | MS27039-1-14  |             |
| 1     | 1     | 7     | 601.2943 | LOCKNUT             | MS21042-3     |             |
| 2     | 2     | 6     | 601.1607 | WASHER              | NAS1149F0332P |             |
| 22    | 22    | 5     | 601.1915 | RIVET               | CR3213-4-4    |             |
| 1     | 1     | 4     | 647.1713 | SPACER              | △             | △           |
|       | 1     | 3     | 647.1712 | GUSSET              | △             | △           |
|       |       | 2     | 647.1711 | PLATE               | △             | △           |
|       |       | 1     | 647.1710 | PLATE               | △             | △           |
| X     |       |       | 647.1703 | SKID DEFLECTOR ASSY |               |             |
|       | X     |       | 647.1702 | SKID DEFLECTOR ASSY |               |             |
|       | X     |       | 647.1701 | SKID DEFLECTOR ASSY |               |             |
| .1703 | .1702 | .1701 | FIND #   | PART #              | DESCRIPTION   | MAT'L SPEC. |

| QTY           |          | PARTS LIST                                                                                                                                     |        |
|---------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| NEXT ASSY (S) |          | ORIGINAL DATE<br>JUN 04 1991                                                                                                                   |        |
| 647.1300      |          | DRAWN BY<br>J. GARDNER                                                                                                                         |        |
|               |          | CHECKED BY<br>P. BRAVO                                                                                                                         |        |
|               |          | DRAWING APPROVAL<br>P. BRAVO                                                                                                                   |        |
|               |          | CONTRACT NO.                                                                                                                                   |        |
|               |          | UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ± .01<br>3 PLACE DECIMALS ± .005<br>ANGLES ± .5° |        |
| SHEET         | 8        | CAGE CODE                                                                                                                                      | 07M16  |
| DWG. NO.      | 647.1700 | REV.                                                                                                                                           | D      |
| SCALE         | NONE     | SHEET                                                                                                                                          | 1 OF 7 |

3030 ENTERPRISE CT.  
SUITE A  
VISTA, CA 92081  
(760) 724-5300

SKID DEFLECTOR ASSY

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SECTION A-A

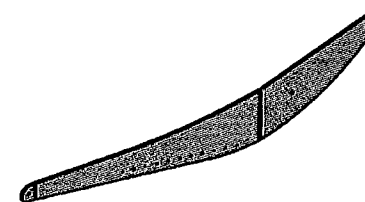
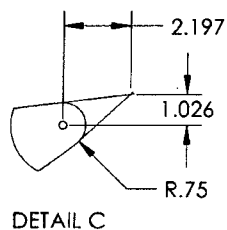
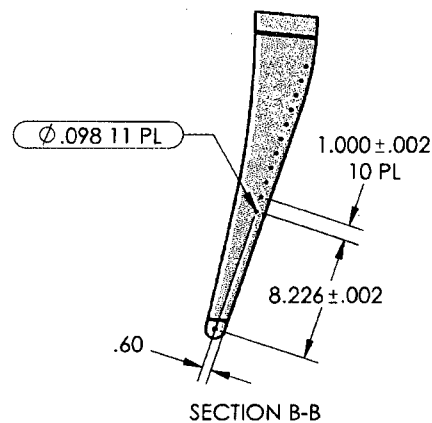
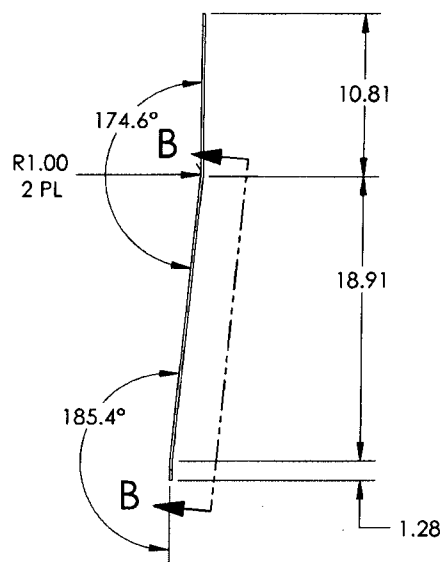
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| ORIGINAL DATE<br>JUN 04 1991                                                                                                                |                    | DESIGN NO.<br>0055/09  |           |
| DRAWN BY<br>J. GARDNER                                                                                                                      |                    | CHECKED BY<br>P. BRAVO |           |
| DRAWING APPROVAL<br>P. BRAVO                                                                                                                |                    |                        |           |
| CONTRACT NO.                                                                                                                                |                    |                        |           |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ±.01<br>3 PLACE DECIMALS ±.005<br>ANGLES ±.5° |                    |                        |           |
| SRE<br>8                                                                                                                                    | CAOE CODE<br>07MI6 | DWG. NO.<br>647.1700   | REV.<br>D |
| SCALE<br>NONE                                                                                                                               |                    | SHEET 2 OF 7           |           |

**DART** 3030 ENTERPRISE CT.,  
AEROSPACE SUITE A  
VISTA, CA 92081  
(760) 724-5300

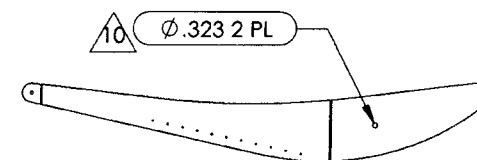
AFICAL INDUSTRIES, INC.  
DBO DART AEROSPACE

SKID DEFLECTOR ASSY

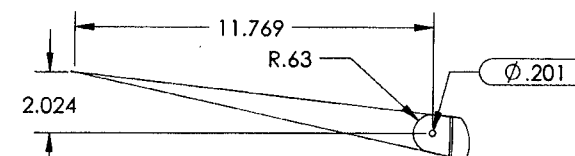
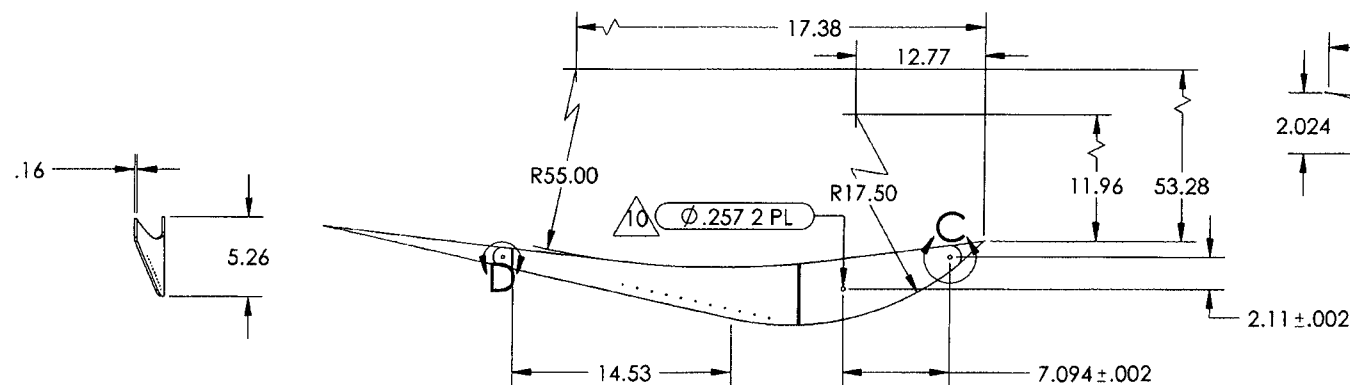
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647.1711 SHOWN  
647.1710 OPPOSITE



647.1714 SHOWN  
647.1715 OPPOSITE



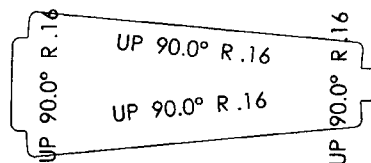
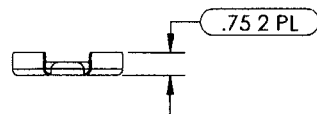
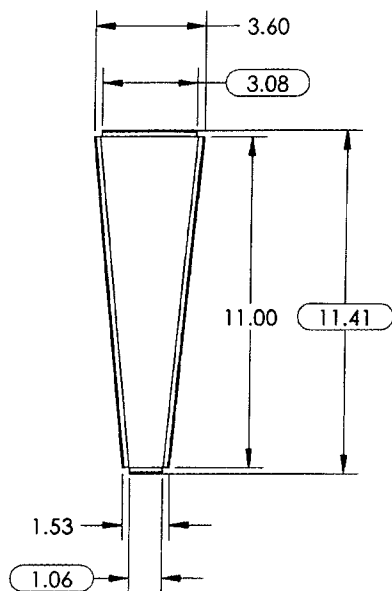
DETAIL D

|                                                                                                                                                                   |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| ORIGINAL DATE<br>(MM/DD/YY)                                                                                                                                       | 08/05/07            |
| DRAWN BY<br>J. GARDNER                                                                                                                                            | CHECKED<br>P. BRAVO |
| DRAWING APPROVAL<br>P. BRAVO                                                                                                                                      |                     |
| CONTRACT NO.                                                                                                                                                      |                     |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>1. PLACE DECIMALS $\pm .01$<br>2. PLACE DECIMALS $\pm .005$<br>ANGLES $\pm .5^\circ$ |                     |
| SIZE<br>B                                                                                                                                                         | CAGE CODE<br>07M126 |
| DWG. NO.<br>647.1700                                                                                                                                              | REV.<br>D           |
| SCALE: NONE                                                                                                                                                       | SHEET 3 OF 7        |

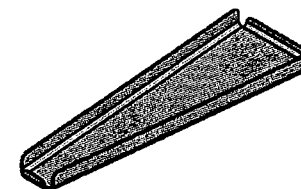
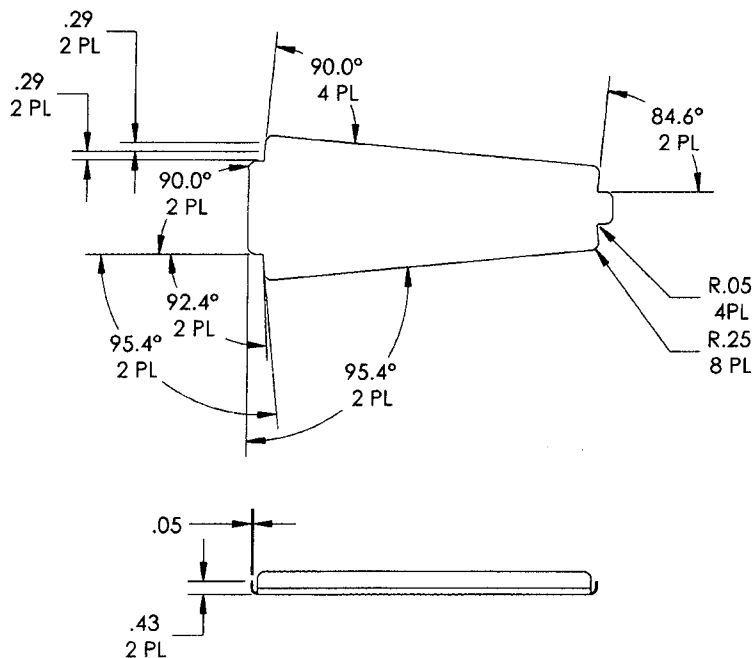
**DART** 3030 ENTERPRISE CT., SUITE A  
AEROSPACE VISTA, CA 92081  
APCAL INDUSTRIES, INC. (760) 691-9108  
DART AEROSPACE

SKID DEFLECTOR ASSY

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FLAT PATTERN



647.1712

|                                                                                                                                               |                                                                                                                                                          |                                             |                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------|
| ORIGINAL DATE<br>(MM/DD-YY) 08/05/09                                                                                                          | <br>3030 ENTERPRISE CT<br>SUITE<br>VISTA, CA 92081<br>(760)724-5300 |                                             |                        |
| DRAWN BY<br>J. GARDNER                                                                                                                        |                                                                                                                                                          |                                             | CHECKED BY<br>P. BRAVO |
| DRAWING APPROVAL<br>P. BRAVO                                                                                                                  |                                                                                                                                                          |                                             |                        |
| CONTRACT NO.                                                                                                                                  |                                                                                                                                                          | APICAL BUSINESS INC.<br>REPO DART AEROSPACE |                        |
| SKID DEFLECTOR ASSY                                                                                                                           |                                                                                                                                                          |                                             |                        |
| UNLESS OTHERWISE SPECIFIED:<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ±.01<br>3 PLACE DECIMALS ±.005<br>ANGLES ± .5° |                                                                                                                                                          |                                             |                        |
| SHEET<br>B                                                                                                                                    | CAGE CODE<br>07M16                                                                                                                                       | DWG. NO.<br>647.1700                        | REV.<br>D              |
| SCALE NONE                                                                                                                                    |                                                                                                                                                          | 1 SHEET 4 OF 7                              |                        |

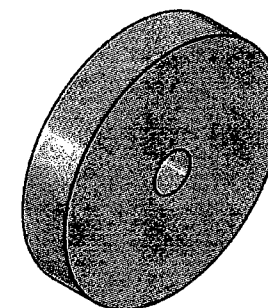
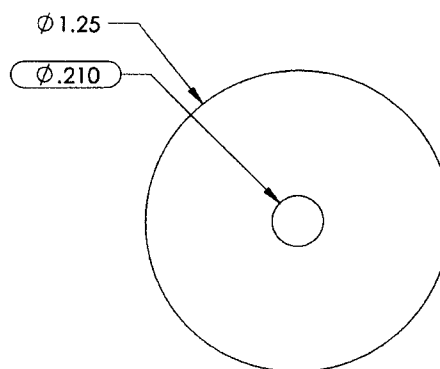
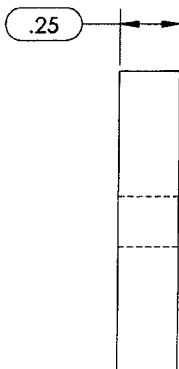
**DART** 3030 ENTERPRISE CT.,  
AEROSPACE SUITE A  
VISTA, CA. 92081  
(760)724-5300

APICAL INDUSTRIES, INC.  
©200 DART AEROSPACE

SKID DEFLECTOR ASSY



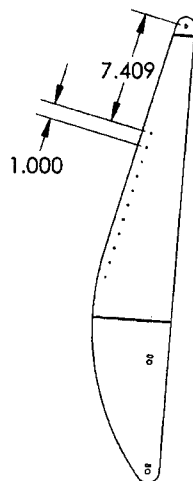
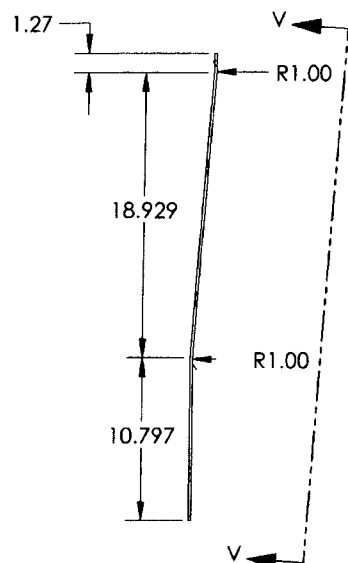
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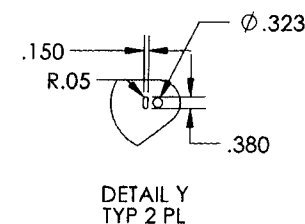
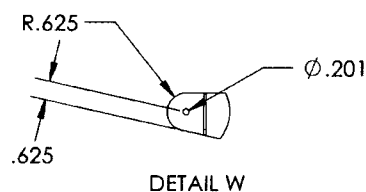
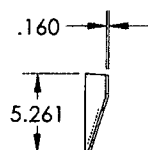
647.1713

|                                                                                                                                                |                     |                                                                                                                         |  |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------|--|
| ORIGINAL DATE<br>11-01-99 08:01:00                                                                                                             |                     | 3030 ENTERPRISE CT.<br>SUITE A<br>VISTA, CA 92081<br>(760)724-5300                                                      |  |
| DRAWN BY<br>J. GARDNER                                                                                                                         | CHECKED<br>P. BRAVO | <b>DART</b><br>AEROSPACE<br>APICAL INDUSTRIES, INC.<br>3030 ENTERPRISE CT.<br>VISTA, CA 92081<br>(760)724-5300          |  |
| DRAWING APPROVAL<br>P. BRAVO                                                                                                                   |                     |                                                                                                                         |  |
| CONTRACT NO.                                                                                                                                   |                     | <b>SKID DEFLECTOR ASSY</b><br>SITE / CAGE CODE: 8 071M26    DWG. NO: 647.1700    REV. D<br>SCALE: NONE    SHEET: 5 OF 7 |  |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ± .01<br>3 PLACE DECIMALS ± .005<br>ANGLES ± .5° |                     |                                                                                                                         |  |

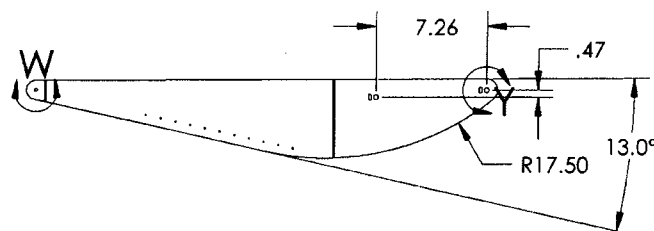
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VIEW V-V

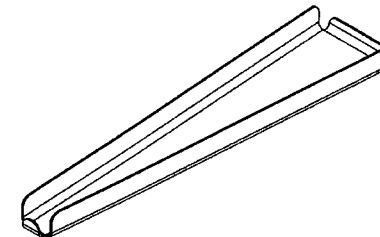
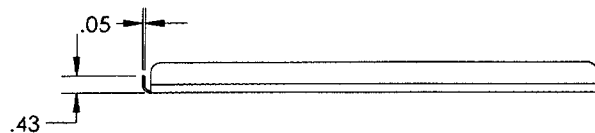
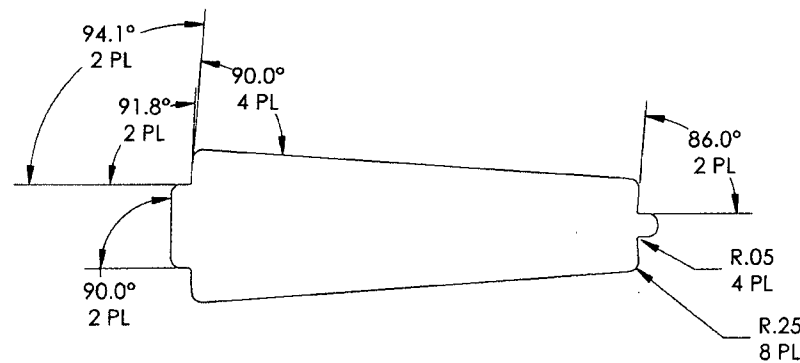
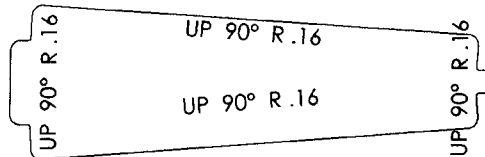
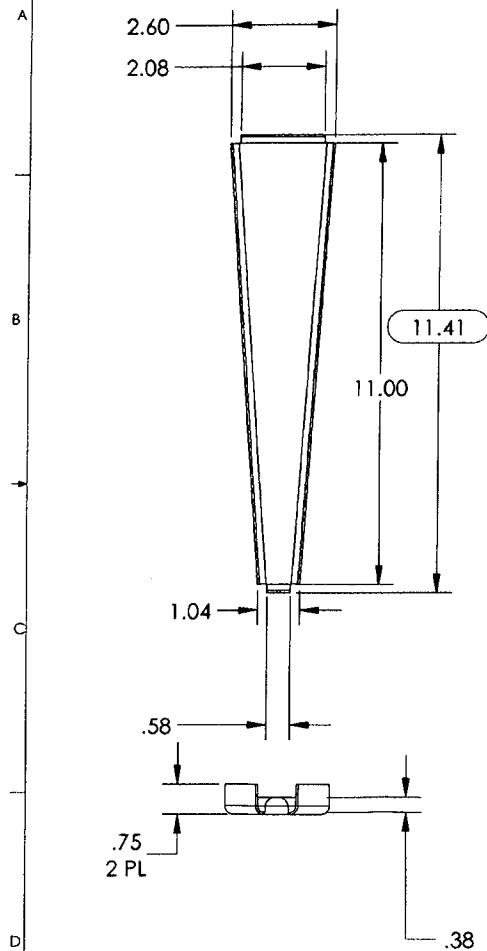


647.1716 SHOWN  
647.1717 OPPOSITE



|                                                                                                                                             |                    |                      |           |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------|-----------|
| ORIGINAL DATE<br>10/20/01                                                                                                                   |                    | DESIGNER<br>P. BRAVO |           |
| DRAWN BY<br>S. HUFF                                                                                                                         |                    | CHECKER<br>P. BRAVO  |           |
| DRAWING APPROVAL<br>P. BRAVO                                                                                                                |                    | DATE<br>08-01-07     |           |
| CONTRACT NO.                                                                                                                                |                    |                      |           |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ±.01<br>3 PLACE DECIMALS ±.002<br>ANGLES ±.5° |                    |                      |           |
| DART AEROSPACE<br>3030 ENTERPRISE CT.,<br>SUITE A<br>VISTA, CA 91081<br>(760)724-5300                                                       |                    | SKID DEFLECTOR ASSY  |           |
| SHEET<br>B                                                                                                                                  | CAGE CODE<br>07M16 | DWG. NO.<br>647.1700 | REV.<br>D |
| SCALE<br>NONE                                                                                                                               |                    | SHEET<br>6 OF 7      |           |

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647.1718

|                                                                                                                                               |  |                                              |  |                                                                      |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------|--|----------------------------------------------------------------------|--|
| ORIGINAL DATE<br>10/24/87                                                                                                                     |  | DESIGNED BY<br>S. HUFF                       |  | CHECKED BY<br>P. BRAVO                                               |  |
| DRAWING APPROVAL<br>P. BRAVO                                                                                                                  |  | APICAL INDUSTRIES INC.<br>000 DART AEROSPACE |  | 3030 ENTERPRISE CT.,<br>SUITE A<br>VISTA CA, 92081<br>(760) 724-5300 |  |
| CONTRACT NO.                                                                                                                                  |  | SKID DEFLECTOR ASSY                          |  | REV. D                                                               |  |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ± .01<br>3 PLACE DECIMALS ± .005<br>ANGLES ± 5° |  | SHEET 07M26                                  |  | DWG NO. 647.1700                                                     |  |
| SCALE NONE                                                                                                                                    |  | SHEET 7 OF 7                                 |  |                                                                      |  |